

VASCULAR-PLANT TYPE SPECIMENS IN THE OHIO STATE UNIVERSITY HERBARIUM^{1, 2}

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ABSTRACT

The Ohio State University Herbarium now contains over 200 specimens of vascular plants that have been designated as types. These types are listed here, with information about the original source collection in which each type was located, data appearing on the label (locality, date, collector), the kind of type, and the citation of the original publication.

Since the establishment of The Ohio State University Herbarium by Professor William Ashbrook Kellerman shortly after his appointment in 1891 as the first professor of botany in the University, the vascular-plant herbarium has grown to approximately 200,000 specimens, of which 110,000 are Ohio plants. Among out-of-state plants, the herbarium has specimens from all of the states in the United States, with emphasis on grasses, pteridophytes (especially *Equisetum*), flowering plants from southeastern United States and Kansas, and aquatic plants from the Great Lakes area. Significant collections from outside the United States are from Arctic North America, Panama, and Guatemala.

From among these collections, over 200 specimens of vascular plants have now been designated as types. These type specimens comprise one of the most valuable portions of this natural-history research collection, because they are one of the sources forming the basis on which new taxa are named. The first section of this paper is an annotated list of those noteworthy original source collections presented to The Ohio State University Herbarium in which types specimens were located. This list is arranged nearly chronologically according to the receipt of these collections by the University Herbarium. Information is given on approximate total numbers of specimens and numbers of types in each collection, how and when each collection was acquired, and selected publications based on each collection.

The second section of this paper is an alphabetical list of the type specimens by scientific name. A number in parentheses after the name of each type specimen corresponds with the number assigned to its related source collection listed in the first section of the paper. Information given on the label (locality, date, and collector), reference citation, and the kind of type are recorded for each specimen. The kinds of types are designated according to information from both the labels and the literature. When known to the authors, the institution(s) having the holotype or other duplicate types is/are also noted. The data on all of the specimen labels have been checked with the published data, and all type designations are believed to be correct and consistent with the *International Code of Botanical Nomenclature* (*Regnum Vegetabile* 82: 426 p. 1972).

Holotypes, isotypes, syntypes, isosyntypes, lectotypes, and one neotype are cited. Topotypes are not cited, except for those few from Ohio which were obtained by the collector of the original (or holotype) specimen at the type locality within five years from the date the holotype was collected. In some cases, as noted, the topotype comes from the same tree as the holotype. Abbreviations of

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herbaria cited are according to *Index Herbariorum, Part 1*, by Lanjouw and Stafleu (*Regnum Vegetabile* 31: 251 p. 1964).

ORIGINAL SOURCE COLLECTIONS CONTAINING TYPES

1. Collections from various sources

Since the founding of The Ohio State University Herbarium, contributions of vascular plants have been made by various individuals, or have been received on exchange or by gift from other institutions. The specific sources of the 44 type specimens in this grouping are not always known. These types are the basis for taxa described in one book and in 32 papers in 16 different journals from 1876 to 1972.

2. Thomas Henry Kearney, Jr. Personal Herbarium

This collection of several thousand specimens is the personal, mostly pre-1900, herbarium of Mr. Kearney, and now forms a significant portion of The Ohio State University Herbarium. The specimens are stamped "Herbarium of T. H. Kearney, Jr." The collection is rich in types, a total of 74 being listed here, of which 27 were used by Kearney to describe new taxa. Most of the taxa he described were published in the *Bulletin of the Torrey Botanical Club* from 1893 to 1900 and the *Bulletin of the United States Department of Agriculture Division of Agrostology* from 1897 to 1901. Additional types are probably in the Kearney Collection, but have not yet been recognized. The remaining 47 of the 74 types in the Kearney Collection are specimens acquired by Kearney from his contemporaries. In order to determine the original source of each of these type specimens, the following subdesignations have been made.

- A. Alvan Wentworth Chapman Types
- B. August Gattinger Collections and Types
- C. Edward Lee Greene Types
- D. A. Arthur Heller Collections and Types
- E. Thomas H. Kearney, Jr., Collections and Types
- F. Charles Mohr Collections and Types
- G. George V. Nash Collections and Types
- H. John K. Small Types
- I. Other Types

Wentz (1974) prepared an annotated list of 43 taxa described by Kearney, of which not all the holotypes are in the Kearney Collection at The Ohio State University Herbarium. Wentz provided evidence that Kearney's pre-1900 herbarium is indeed his personal herbarium. Therefore, the type designations of specimens in Kearney's Collection cited in the following catalogue have been made according to both Wentz's evidence and Kearney's annotations on the herbarium sheets. That is, those taxa described by Kearney that are represented in Kearney's personal herbarium in The Ohio State University Herbarium are considered to be holotypes. Duplicate types (isotypes or isosyntypes) are in other herbaria, particularly NY and US. Kearney's personal herbarium apparently came to The Ohio State University from the herbarium of the University of Tennessee about 1900, but other information on its acquisition is not known.

3. Plantae Exsiccatae Grayanae

The specimens of this large exsiccatae set that are in The Ohio State University Herbarium were widely distributed by the Gray Herbarium of Harvard University in the early 1900's. The specimens are recognized by special printed labels with the notation "Plantae Exsiccatae Grayanae." Seven types have been noted from these exsiccatae in The Ohio State University Herbarium and perhaps there may be others. All of the taxa in our exsiccatae set were described from 1901 to 1917 in papers in *Rhodora* by Merritt Lyndon Fernald or his associates at the Gray Herbarium, where the holotypes presumably are located.

4. W. W. Eggleston Collections of *Crataegus*

This collection of approximately 50 specimens of *Crataegus* was made in the early 1900's by W. W. Eggleston in Vermont, the St. Lawrence valley, and Massachusetts. Our set was

received on exchange from the herbarium of the Arnold Arboretum, Harvard University. Five types are known from our collection, all of them being the basis for species described by Charles Sprague Sargent in *Rhodora* from 1901 to 1905. The holotypes presumably are in the herbarium of the Arnold Arboretum.

5. North American *Equisetum* described by Alvah A. Eaton

This collection of about 50 specimens of *Equisetum* was prepared by Alvah A. Eaton and distributed to individuals and institutions in the early 1900's. The specimens are recognized by special printed labels with the notation, "Fern Bulletin Distribution. The Genus *Equisetum* In North America By Alvah A. Eaton." Duplicate types from this series in The Ohio State University Herbarium form the basis of 11 taxa described by Eaton in Gilbert (1901) and in volumes 10-12 of the *Fern Bulletin* during 1902 to 1904.

6. William Ashbrook Kellerman's Collections of Vascular Plants from Guatemala

This collection of approximately 700 specimens is the residue of material obtained by Professor Kellerman on his four botanical expeditions to Guatemala in 1905, 1906, 1907, and 1908. The bulk of the collections, some 4,084 specimens in 20 boxes, was shipped to the United States National Museum in 1955, whence some of the material was further distributed to other herbaria. Forty-four vascular-plant taxa are known to have been described from Kellerman's vascular-plant collections. Kellerman himself described none of the taxa. The 14 isotypes that are known from The Ohio State University Herbarium date and are listed here from Kellerman's first three trips. Holotypes and duplicate types are known to be at F, MICH, NY, and US. The 44 taxa with full data and the daily itinerary of dates and places with maps are presented by Lowden (1970, 1973).

7. Edward Lee Greene Types

Edward Lee Greene, an active taxonomist and prolific writer of the late nineteenth and early twentieth centuries, described or recombined over 4,400 new taxa (Crovello, 1972). Most of the holotypes supporting Greene's new taxa are in the herbarium of Notre Dame University, Indiana. Twenty types have been designated from three sources in The Ohio State University Herbarium.

- A. Sixteen types belong to collections probably received on exchange in the early 1900's. These specimens were principally obtained during the period of 1898 to 1902 by S. M. Tracy in Texas, S. M. Tracy and F. S. Earle in Texas, F. S. Earle and Esther S. Earle in New Mexico, and C. F. Baker, F. S. Earle, and S. M. Tracy in Colorado and Texas.
- B. Three types, *Gerardia decemloba*, *G. holmiana*, and *Megalodonta nudata*, came from the Kearney Herbarium (collection no. 2).
- C. One specimen, *Castilleja confusa*, was part of the Ohio Agricultural Experiment Station Herbarium, Wooster, Ohio. The Experiment Station Herbarium was acquired by The Ohio State University Herbarium in 1968.

These duplicate types form the basis of some of the species which Greene described from 1899 to 1903 in volumes 4 and 5 of his own journal, *Pittonia*.

8. Floyd Bartley and Leslie L. Pontius Collections from Ohio

The hundreds of specimens collected jointly by these two amateur Ohio botanists form a large and significant portion of the Ohio plants in The Ohio State University Herbarium. Their specimens are principally from south-central Ohio. Mr. Bartley, a farmer, and the late Mr. Pontius, a postmaster, began contributing their specimens to The Ohio State University Herbarium in the 1930's, and Mr. Bartley, now in his 80's, continues to bring specimens to the University Herbarium. Many of the Bartley and Pontius collections are the basis for the *Check List of Vascular Plants* of Jackson and Vinton counties by Bartley (1959). An isotype of *Calamagrostis insperata* Swallen was described from a Bartley and Pontius specimen obtained in Jackson County, Ohio. An account of Bartley's contribution to Ohio botany can be found in Stuckey (1971).

9. William C. Werner Personal Herbarium

The personal herbarium of William C. Werner of Painesville, Ohio, was presented to The Ohio State University Herbarium in 1936 (Schaffner, 1936). Mr. Werner was one of the early instructors in the Department of Botany of The Ohio State University and was a co-author with Professor Kellerman of the third *Catalogue of Ohio Plants* (Kellerman and Werner, "1893" [1894]).

In volume three of Britton and Brown (1898, p. 501), Britton described *Panicum wernerii* from New York and Ohio, with the type from Painesville, *Werner 60*, presumably at US (Hitchcock and Chase, 1951, p. 925). Duplicate type specimens of *P. wernerii*, however, were not located in Werner's personal herbarium. One of his specimens, taken in 1892 at Georgesville, was designated by Heiser (1969) as a neotype of *Helianthus occidentalis* Riddell.

10. John H. Schaffner Collections of *Equisetum*

This collection, filling two standard-size herbarium cases, represents a portion of the material on this genus amassed by Professor Schaffner. He described only one species, *Equisetum kansanum* Schaffner (1912), of which the holotype and an isotype are in the collection. Thirty-three of his papers on the genus are listed in his bibliography compiled by Waller (1941, pp. 271-280).

11. Lewis S. Hopkins Personal Pteridophyte Herbarium

This collection of approximately 6,200 specimens of ferns and fern allies was acquired by The Ohio State University Herbarium in 1944 (Jones, 1944). These specimens can be recognized by the stamp, "Herbarium of Lewis S. Hopkins." Five types have been designated in the collection and others probably exist. Four of the types are for taxa described by Hopkins (1910, 1917, 1919) and are here considered to be holotypes.

12. Stanford, Retherford, and Northcraft Collections from Coahuila, Mexico

This collection was made in 1941 by L. R. Stanford, K. L. Retherford, and R. D. Northcraft, and was probably received in the 1940's by The Ohio State University Herbarium on exchange from the herbarium of the Arnold Arboretum or Gray Herbarium, Harvard University. Four isotypes are known from the collection, all of which come from near Jimulco, Coahuila, and are the basis for species described by the late Ivan M. Johnston (1943). The holotypes of our four isotypes are in the Gray Herbarium.

13. North Appalachian Experimental Watershed Herbarium

This set of 2,734 specimens documents the 1,315 taxa listed by Moldenke (1944) for the flora of the North Appalachian Experimental Watershed, located near Fresno, Chili, and Canal Lewisville, Coshocton County, Ohio. This locality is abbreviated "N. A. E. W." on the labels and in the citations in the publication. Cultivated species, escapes, naturalized plants, and waifs are included, as well as native plants. From among these 2,734 specimens, eleven holotypes are the basis of eleven new forms described in two papers by Moldenke (1943, 1944). The North Appalachian Experimental Watershed Herbarium was probably presented to The Ohio State University Herbarium in the 1940's.

14. William Starling Sullivant's 1840 Collection of Vascular Plants from Ohio

Collected in 1840, the 390 specimens in this collection are the second oldest in The Ohio State University Herbarium. They were acquired by a transfer from the Horticulture Department of the The Ohio State University and apparently represent the 375 specimens received in 1940 as reported by Jones (1940). The specimens were prepared by William Starling Sullivant, recognized world authority in bryology in the latter half of the nineteenth century. The entire collection may have come to the University from his brother, Joseph, who was instrumental in the founding of The Ohio State University, rather than from William himself, because the last remaining portion of William's own vascular-plant herbarium was sent in 1868 to Asa Gray at Harvard University (letter to Asa Gray, 22 April 1968, at GH; Rodgers, 1940, p. 281).

The specimens of the entire Sullivant collection are all labeled with the name of the plant as originally identified and with the data, "Columbus, Ohio 1840 W. S. S." Our collection of Sullivant's vascular plants represents the largest known number of his plants remaining as a single unit. From among our 390 specimens, only three are types. The types of most of the 20 known taxa described from Sullivant's specimens of vascular plants have been located in several United States herbaria: GH, MO, NY, PH, and US.

15. Underwood and Selby Collection of Vascular Plants from Colorado

This collection of 718 specimens of vascular plants obtained in west-central Colorado in 1901 was prepared jointly by Professor Lucien Marcus Underwood of the New York Botanical Garden and Mr. Augustine Dawson Selby of the Ohio Agricultural Experiment Station. Our collection represents Selby's set of the specimens that was left in the Experiment Station Herbarium. This Herbarium was transferred to The Ohio State University Herbarium in 1968. Twenty taxa known to be named and described by Per Axel Rydberg in five papers in the *Bulletin of the Torrey Botanical Club* from 1904 to 1906 were based on Underwood's set of the specimens in the herbarium of the New York Botanical Garden. Isotypes for 11 of these taxa are in Selby's set of specimens and are listed here. An itinerary of the collecting trip based on Selby's set of specimens and Underwood's field notes has been presented by Stuckey and Hawk (1974).

16. Asa Gray's North American Gramineae and Cyperaceae

This collection of grasses and sedges is an exsiccatae set of 200 specimens bound in a two-volume book. Prepared and distributed by Asa Gray in 1834 and 1835, this collection provided authentically identified specimens of North American grasses and sedges obtained largely in the pine barrens and on the coast of New Jersey in 1833 and in the central and western parts of New York between 1828 and 1835. Our two volumes of specimens were received in 1969 through exchange with the herbarium of the Academy of Natural Sciences of Philadelphia. These specimens are the oldest dated flowering plants in The Ohio State University Herbarium. In this book, two species of grasses, *Calamagrostis inexpansa* and *Panicum xanthophysum*, were validly published, the descriptions being printed on the labels with the specimens. Additional information on this rare book is given in Rickett and Gilly (1942) and in McVaugh (1968). Rickett and Gilly (1942, p. 466) designated the specimens in the herbarium of the New York Botanical Garden as the lectotypes.

17. James A. Duke Collection from Panama and Nearby Counties

The 3,419 specimens of this collection were prepared by James A. Duke and several associates in Panama. A few specimens also came from Colombia, Costa Rica, Ecuador, and Puerto Rico. The plants were collected during the 1960's as part of the field work conducted in connection with the Atlantic-Pacific Interoceanic Sea-level Canal in Central America by Battelle Memorial Institute, Columbus, Ohio. The Battelle Institute gave the collection to The Ohio State University Herbarium in 1971. Evidently several sets of specimens were collected in Panama. Most of the first set is in the herbarium of the Missouri Botanical Garden, with duplicates of certain families or genera distributed elsewhere. Our specimens represent primarily a second and third duplicate set. Three type specimens have been located, and probably others exist in our collection, but research has not progressed to an extent that the entire collection has been checked for type specimens. A list of new or proposed species resulting from the Sea-level Canal Survey, with collection numbers and the names of the authors but otherwise lacking in documentation, has been prepared by Duke and Porter (1970).

CATALOGUE OF TYPE SPECIMENS

Acer rubrum L. var. *rubro carpum* Detmers, Ohio J. Sci. 19: 263, pl. 13. 1919. (1).

OHIO: LICKING CO.: Cranberry Island, Buckeye Lake, 18 May, 9 Aug 1917; 9 Apr, 11 May 1918, *F. Detmers s.n.* HOLOTYPE.

Acer rubrum L. var. *viride* Detmers, Ohio J. Sci. 19: 235-236, pl. 12. 1919. (1).

OHIO: LICKING CO.: Cranberry Island, Buckeye Lake, 18 May, 9 Aug 1917; 5 Apr 1918, *F. Detmers s.n.* HOLOTYPE: 9 May 1910, ISOTYPE Ex Herb. Ohio Agricultural Experiment Station.

- Achillea millefolium* L. var. *rubra* Sadl. subvar. *parviligulata* Farwell, Am. Midl. Nat. 12: 73-74. 1930. (1).
 MICHIGAN: [OAKLAND CO.]: Rochester, 10 Sep 1929, O. A. Farwell 8578, ISOTO-TYPE. Lectotype MICH, *fide* R. McVaugh, S. A. Cain, and D. J. Hagenah, Cranbrook Inst. Sci. Bull. 34, p. 14. 1953.
- Adiantum pedatum* L. var. *luciniatum* L. S. Hopkins, Ohio Nat. 10: 179-180. 1910. (11).
 OHIO: WAYNE CO.: Wooster, 18 Jul 1907, L. S. Hopkins s.n. HOLOTYPE.
- Agoseris humilis* Rydberg, Bull. Torrey Bot. Club 32: 137. 1905. (15).
 COLORADO: [OURAY CO.]: Iron-ton Park, 11 Sep 1901, L. M. Underwood & A. D. Selby 308, ISOTYPE.
- Agrimonia mollis* (Torrey & Gray) Britt. var. *bicknellii* Kearney, Bull. Torrey Bot. Club 24: 565. 1897. (2E).
 TENNESSEE: COCKE CO.: Wolf Creek, 2 Sep 1897, T. H. Kearney, Jr. 691, HOLO-TYPE. Isotypes NY, US.
- Agropyron albicans* Scribner & Smith, Bull. U. S. D. A. Div. Agrost. 4: 32. 1897. (2I).
 MONTANA: [JUDITH BASIN CO.]: Yogo Gulch, 22 Aug 1896, P. A. Rydberg 3405, ISOTYPE.
- Agrostis intermedia* Scribner in Kearney, Bull. Torrey Bot. Club 20: 476. 1893. (2E).
 KENTUCKY: HARLAN CO.: Pine Mountain, yr. 1893, T. H. Kearney, Jr. 39, SYNTYPE.
- Allionia divaricata* Rydberg, Bull. Torrey Bot. Club 29: 691-692. 1902. (1).
 COLORADO: [MONTEZUMA CO.]: Durango, 18 Jul 1898, C. F. Baker, F. S. Earle, & S. M. Tracy 512, ISOTYPE.
- Amorpha virgata* Small, Bull. Torrey Bot. Club 21: 17. 1894. (2H).
 GEORGIA: DEKALB CO.: Stone Mountain, 17 Jul 1893, J. K. Small s.n., ISOTYPE. Holotype NY.
- Andropogon scoparius* Michx. var. *villosissimus* Kearney in Scribner & Ball, Bull. U. S. D. A. Div. Agrost. 24: 41. 1901. (2E).
 MISSISSIPPI: [WAYNE CO.]: Waynesboro, 2 Oct 1896, T. H. Kearney, Jr. 136, ISOTYPE.
- Arabis patens* Sullivant, Am. J. Sci. 42: 49. 1842. (14).
 OHIO: [FRANKLIN CO.]: Columbus, yr. 1840, W. S. Sullivant s.n. ISOTYPE. Also Isotypes GH, NY. Lectotype PH, *fide* M. Hopkins. Rhodora 39: 125. 1937.
- Arabis selbyi* Rydberg, Bull. Torrey Bot. Club 31: 557. 1904. (15).
 COLORADO: [OURAY CO.]: Ouray, 9 Sep 1901, L. M. Underwood & A. D. Selby 207, ISOTYPE.
- Aralia sololensis* J. D. Smith, Bot. Gaz. 56: 58. 1913. (6).
 GUATEMALA: DEP. SOLOLA: Patulul, 16 Feb 1906, W. A. Kellerman 5828, ISO-TYPE. Holotype US.
- Aralia spinosa* L. f. *subinermis* Moldenke, Castanea 9: 54. 1944. (13).
 OHIO: COSHOCTON CO.: North Appalachian Experimental Watershed, near Coshoc-ton, 25 Jul 1942, H. N. Moldenke 13311, HOLOTYPE.
- Ardisia cumbiana* Lundell, Wrightia 4: 44-45. 1968. (17).
 COLOMBIA: DEP. CHOCO: Vicinity of Camp Curiche, s Boca Curiche, 26 May 1967, J. A. Duke 11680. ISOTYPE. Holotype LL.
- Aristolochia nashii* Kearney, Bull. Torrey Bot. Club 21: 485-486. 1894. (2E, G).
 FLORIDA: [LAKE CO.]: Lake Ella, Eustis, yr. 1894, G. V. Nash 1139, HOLOTYPE. (Designation based on Kearney's annotation, "Type" [=Holotype], on the label).
- Artemisia underwoodii* Rydberg, Bull. Torrey Bot. Club 32: 129. 1905. (15).
 COLORADO: [OURAY CO.]: Ouray, 17 Sep 1901, L. M. Underwood & A. D. Selby 74, ISOTYPE.
- Arundinaria amabilis* McClure, Lingnan Sci. J. 10: 6-7. 1931. (1).
 CHINA: KWANGTUNG. Kwong Ning District, Mung Haang above Koo Shui on the Sui River, yr. 1930 on the label, 1929 in the publication, F. A. McClure 17531-2, ISO-TYPE. Holotype Lingnan Univ. Herb.
- Aster schistosus* Steele, Contrib. U. S. Natl. Herb. 13: 373-374. 1911. (1).
 VIRGINIA: BATH CO.: Millboro, 17 Sep 1907, E. S. Steele s.n. ISOTYPE.
- Aster underwoodii* Rydberg, Bull. Torrey Bot. Club 31: 654. 1904. (15).
 COLORADO: [OURAY CO.]: Iron-ton Park, 11 Sep 1901, L. M. Underwood & A. D. Selby 318, ISOTYPE.
- Astragalus pattersonii* A. Gray in Brandegee, Bull. U. S. Geol. Surv. 2: 235. 1876. (1).
 COLORADO: Foothills of Gore Mts., Middle Park, near the Grand Canyon, 28 Jul 1876, H. N. Patterson s.n. ISOTYPE. Ex Herb. US. Holotype GH; Isotypes ND, NY, PH, US, *fide* R. C. Barneby, Mem. N. Y. Bot. Gard. 13: 590. 1964.
- Athyrium angustum* Presl var. *cristatum* L. S. Hopkins, Am. Fern J. 9: 86-88, photo pl. 4. 1919. (11).
 OHIO: PORTAGE CO.: Near Windham, 3 Jun 1916, L. S. Hopkins s.n. HOLOTYPE.

- Bidens cernua* L. var. *elliptica* Wiegand, Bull. Torrey Bot. Club 26: 417-418. 1899. (2E).
 KENTUCKY: BELL CO.: Wasioto, Sep 1893, T. H. Kearney, Jr. 475, SYNTYPE.
 Also Syntype NY. (Designation based on Kearney's annotation, "Dupl. Co-Type!" [= Syntype], on the label).
- Bouvardia deamii* J. D. Smith, Bot. Gaz. 49: 455-456. 1910. (1).
 GUATEMALA: DEP. GUATEMALA: Fiscal, 5 Jun 1909, C. C. Deam 6190, ISOTYPE.
 Holotype US.
- Brickellia kellermanii* Greenman, Publ. Field Mus. Nat. Hist., Bot. Ser. 2: 265. 1907. (6).
 GUATEMALA: DEP. BAJA VERAPAZ: Sierra de las Minas, 3 Mar 1907, W. A. Kellerman 6127, ISOTYPE. Holotype F.
- Cakile chapmanii* Millsp. Publ. Field Mus. Nat. Hist., Bot. Ser. 2: 130-131. 1900. (1).
 MISSISSIPPI: [HARRISON CO.]: Ship Island, 29 May 1898, S. M. Tracy s.n. ISOSYNTYPE.
- Calamagrostis alaskana* Kearney, Bull. U. S. D. A. Div. Agrost. 11: 32. 1898. (2E).
 ALASKA: Along Yukon River, Aug 1893, F. Funston 157, ISOTYPE. Holotype US.
 (Designation based on Kearney's annotation, "dupl. Type!" [= Isotype], on the label).
- Calamagrostis breweri* Thurber in S. Watson, Bot. Calif. 2: 280-281. 1880. (2I).
 CALIFORNIA: Sierras, n. d., W. H. Brewer 2128, ISOTYPE. (Designation based on Kearney's annotation, "dupl. Type!" [= Isotype], on the label).
- Calamagrostis foliosa* Kearney, Bull. U. S. D. A. Div. Agrost. 11: 17-18. 1898. (2E).
 CALIFORNIA: HUMBOLDT Co.: Mattole District, n. d., H. N. Bolander 6470, ISOTYPE. Also Isotype NY; Holotype US. (Designation based on Kearney's annotation, "dupl. Type!" [= Isotype], on the label).
- Calamagrostis inexpectans* A. Gray, North American Gramineae and Cyperaceae, Part I. No. 20. 1834. (16).
 NEW YORK: [YATES CO.]: Pen Yan, n. d., H. P. Sartwell s.n. ISOTYPE.
- Calamagrostis insperata* Swallen, J. Wash. Acad. Sci. 25: 413-414. 1935. (8).
 OHIO: JACKSON CO.: Ofer Hollow, Liberty Township, 1 Aug 1934, F. Bartley & L. L. Pontius s.n. ISOTYPE. Holotype US.
- Calamagrostis lemmonii* Kearney, Bull. U. S. D. A. Div. Agrost. 11: 16-17. 1898. (2E).
 CALIFORNIA: Sierra Nevada, yr. 1875, J. G. Lemmon s.n. ISOTYPE. Holotype US.
 (Designation based on Kearney's annotation, "dupl. Type!" [= Isotype], on the label).
- Calamagrostis subflexuosa* Kearney, Bull. U. S. D. A. Div. Agrost. 11: 22. 1898. (2E).
 CALIFORNIA: [CONTRA COSTA CO.]: Oakland, n. d., H. N. Bolander 2274, ISOTYPE. Also Isotype NY; Holotype US. (Designation based on Kearney's annotation, "dupl. Type!" [= Isotype], on the label).
- Calamagrostis suksdorfii* Scribn. var. *luxurians* Kearney, Bull. U. S. D. A. Div. Agrost. 11: 24-25. 1898. (2E).
 IDAHO: [KOTENAI CO.]: Farmington Landing, Lake Coeur d'Alene, Jul 1892, J. H. Sandberg, A. A. Heller, & D. T. McDougal 630, ISOTYPE. Holotype US; Isotype NY.
- Calamagrostis vilfaeformis* Kearney, Bull. U. S. D. A. Div. Agrost. 11: 20-21. 1898. (2E).
 CALIFORNIA: SAN DIEGO CO.: Julian, yr. 1889, C. R. Orcutt s.n. ISOTYPE.
 Holotype US.
- Calliandra rhodocephala* J. D. Smith, Bot. Gaz. 49: 454. 1910. (1).
 GUATEMALA: DEP. IZABAL: Puerto Barrios, 26 May 1909, C. C. Deam 6015, ISOTYPE. Holotype US.
- Calycadenia multiglandulosa* DC. subsp. *robusta* Keck, Aliso 4: 113. 1958. (1).
 CALIFORNIA: SANTA CLARA CO.: Mount Hamilton, 1 mi w Isabel Creek, 22 Aug 1933, D. D. Keck & P. Stockwell 2486, ISOTYPE. Holotype DS.
- Carex trichina* Fernald, Rhodora 35: 219. 1933. = *Carex tenuiflora* Wahlenberg \times *C. trisperma* Dewey, Rhodora 4: 226-227. 1902. (3).
 MAINE: [AROOSTOCK CO.]: Fort Fairfield, 19 Jul 1902, E. F. Williams, J. F. Collins, & M. L. Fernald—*Plantae Exsiccatae Grayanae* 110, ISOTYPE.
- Cassia depressa* Pollard, Bull. Torrey Bot. Club 22: 515-516. 1895. (2G).
 FLORIDA: GADSDEN CO.: River Junction, 5 Sep 1895, G. V. Nash 2571, ISOSYNTYPE.
- Cassia multipinnata* Pollard var. *nashii* Pollard, Bull. Torrey Bot. Club 22: 515. 1895. (2G).
 FLORIDA: GADSDEN CO.: River Junction, 5 Sep 1895, G. V. Nash 2577, ISOTYPE.
- Castilleja confusa* Greene, Pittonia 4: 1-2. 1899. (7C).
 COLORADO: [LA PLATA CO.]: Upper La Plata River, 14 Jul 1898, C. F. Baker, F. S. Earle, & S. M. Tracy 578, ISOSYNTYPE Ex Herb. Ohio Agricultural Experiment Station.
- Celtis helleri* Small, Bull. Torrey Bot. Club 24: 439-440. 1897. (2H, D).
 TEXAS: BEXAR CO.: San Antonio, 17 Apr 1894, A. A. Heller 1586 [no. 1587 in the publication], ISOTYPE. Holotype NY. (Designation based on Kearney's annotation, "Dupl. Type!" [= Isotype], on the label).
- Cerastium arvense* L. var. *webbii* O. E. Jennings, Ohio Nat. 9: 441. 1909. (1).
 OHIO: [CUYAHOGA CO.]: Rocky River Gorge, 25 Jun 1909, R. J. Webb s.n. TOPOTYPE.

- Cerastium earlei* Rydberg, Bull. Torrey Bot. Club 30: 249-250. 1903. (1)
 COLORADO: [LA PLATA CO.]: La Plata, 14 Jul 1898, C. F. Baker, F. S. Earle, & S. M. Tracy 472, ISOTYPE. Holotype NY.
- Chrysopsis flexuosa* Nash, Bull. Torrey Bot. Club 23: 107. 1896. (2G).
 FLORIDA: LEON CO.: Bellair, 3 Sep 1895, G. V. Nash 2545, ISOTYPE.
- Chrysopsis ruthii* Small, Bull. Torrey Bot. Club 24: 493. 1897. (2H).
 TENNESSEE: Hiawassee Valley, McFarland, Oct 1897, A. Ruth s.n. ISOTYPE. (Designation based on Kearney's annotation, "Dupl-type!" [= Isotype], on the label).
- Cimicifuga rubifolia* Kearney, Bull. Torrey Bot. Club 24: 561-564. 1897. (2E).
 TENNESSEE: [KNOX CO.]: Knoxville, 8 Sep 1890, T. H. Kearney, Jr. s.n., 6 Sep 1891, T. H. Kearney, Jr. s.n., Oct 1897, A. Ruth s.n. SYNTYPES.
- Cobaea pachysepalu* Standley, Contrib. U. S. Natl. Herb. 17: 456-457. 1914. (6).
 GUATEMALA: DEP. SACATEPEQUEZ: Volcan Agua, 15 Feb 1905, W. A. Kellerman 4395, ISOTYPE. Holotype US.
- Coleosanthus modestus* Greene, Pittonia 4: 236-237. 1901. (7A).
 NEW MEXICO: LINCOLN CO.: Gray's Peak, Gray, 25 Jul 1900, F. S. Earle & Esther S. Earle 161, ISOTYPE.
- Cornus microcarpa* Nash, Bull. Torrey Bot. Club 23: 103. 1896. (2G).
 FLORIDA: GADSDEN CO.: River Junction, 5 Sep 1895, G. V. Nash 2589, ISOTYPE. Holotype NY.
- Crataegus contigua* Sargent, Rhodora 5: 115. 1903. (4).
 VERMONT: [WINDSOR CO.]: [White River], Stockbridge, 1 Jun, 19 Sep 1901, W. W. Eggleston 2237, ISOTYPE. (Our specimen bears the notation, "Type Trees," on the label).
- Crataegus decens* Ashe, J. Elisha Mitchell Sci. Soc. 19: 19. 1903. (1).
 OHIO: RICHLAND CO.: Mansfield, May, Sep 1904, E. Wilkinson s.n. TOPOTYPE. (Our specimen bears the notation, "From the type tree," on the label).
- Crataegus exclusa* Sargent, Rhodora 5: 108-110. 1903. (4).
 VERMONT: Bald Mt., Clarendon, 17 May, 5 Aug, Oct 1901, W. W. Eggleston 1789, ISOSYNTYPE.
- Crataegus habilis* Ashe, Bot. Gaz. 35: 435-436. 1903. (1).
 OHIO: RICHLAND CO.: Mansfield, May, Sep 1904, E. Wilkinson s.n. TOPOTYPE. (Our specimen bears the notation, "From the type tree," on the label).
- Crataegus jesupi* Sargent, Rhodora 5: 61-62. 1903. (4).
 VERMONT: [RUTLAND CO.]: West Rutland, Twin Mountain, 26 May, 6 Aug, 9 Oct 1901, W. W. Eggleston 2227, ISOTYPE. (Our specimen bears the notation, "Type Trees," on the label).
- Crataegus paddockae* Sargent, Rhodora 7: 202-203. 1905. (4).
 VERMONT: [CALEDONIA CO.]: Lyndonville, 29 May, 30, 14, 15 Sep 1903, W. W. Eggleston 3400, ISOTYPE. (Our specimen bears the notation, "Type Trees," on the label).
- Crataegus prono* Ashe, J. Elisha Mitchell Sci. Soc. 19: 17-18. 1903. (1).
 OHIO: RICHLAND CO.: Mansfield, May, Sep 1904, E. Wilkinson s.n. TOPOTYPE. (Our specimen bears the notation, "From the type tree," on the label).
- Crataegus scabrida* Sargent, Rhodora 3: 29-30. 1901. (4).
 VERMONT: [BENNINGTON CO.]: Bennington, 29 May 1900, 2 Aug, 27 Sep 1901, W. W. Eggleston 1804, ISOSYNTYPE. (Our specimen bears the notation, "Type Trees," on the label).
- Crataegus tracyi* Ashe ex Eggleston, Bull. Torrey Bot. Club 36: 639. 1909. (1).
 TEXAS: [JEFF DAVIS CO.]: Davis Mountains, 23 Apr 1902, S. M. Tracy & F. S. Earle 172, ISOTYPE.
- Crataegus wilkinsoni* Ashe, Bot. Gaz. 35: 435. 1903. (1).
 OHIO: RICHLAND CO.: Mansfield, May, Sep 1904, E. Wilkinson s.n. TOPOTYPE. (Our specimen bears the notation, "From the type tree," on the label).
- Curatella americana* L. var. *pentagyna* J. D. Smith, Bot. Gaz. 46: 109. 1908. (6).
 GUATEMALA: DEP. BAJA VERAPAZ: Salamá, 2 Mar 1907, W. A. Kellerman 6499, ISOTYPE. Holotype US.
- Cyrilla parvifolia* Shuttleworth ex Nash, Bull. Torrey Bot. Club 23: 101-102. 1896. (2G).
 FLORIDA: WAKULLA CO.: St. Mark's, 3 Sep 1895, G. V. Nash 2543, ISOSYNTYPE. Also Isosyntype NY.
- Cystopteris fragilis* (L.) Bernh. var. *cristata* L. S. Hopkins, Ohio Nat. 10: 181. 1910. (11).
 OHIO: PORTAGE CO.: Woodworth's Glen, 25 Aug 1909, L. S. Hopkins s.n. HOLOTYPE.
- Daucus carota* L. f. *fischeri* Moldenke, Castanea 9: 55. 1944. (13).
 OHIO: COSHOCTON CO.: North Appalachian Experimental Watershed, near Coshoc-ton, 2 Aug 1942, H. N. Moldenke 13468, HOLOTYPE.
- Daucus carota* L. f. *goodmani* Moldenke, Castanea 9: 55. 1944. (13).
 OHIO: COSHOCTON CO.: North Appalachian Experimental Watershed, near Coshoc-ton, 15 Jul 1942, H. N. Moldenke 13191, HOLOTYPE.

- Drymaria viscosa* S. Watson, Proc. Am. Acad. Arts 22: 469. 1887. (1).
 LOWER CALIFORNIA: Socono, 27 Apr 1886, C. R. Orcutt 1330, ISOTYPE.
- Erianthus tracyi* Nash, Bull. Torrey Bot. Club 24: 37-38. 1897. (1).
 MISSISSIPPI: [OKTIBBEHA CO.]: Starkville, 1 Oct 1896, S. M. Tracy 5332, ISOTYPE.
- Erigeron commixtus* Greene, Pittonia 5: 58-59. 1903. (7A).
 TEXAS: [JEFF DAVIS CO.]: Limpia Cañon, 26 Apr 1902, S. M. Tracy & F. S. Earle 279, ISOSYNTYPE.
- Erigeron tracyi* Greene, Pittonia 5: 59. 1903. (7A).
 TEXAS: [JEFF DAVIS CO.]: Davis Mountains, 28 Apr 1902, S. M. Tracy & F. S. Earle 320, ISOTYPE.
- Eriogonum capillare* Small, Bull. Torrey Bot. Club 25: 51-52. 1898. (2H).
 ARIZONA: [GILA CO.]: San Carlos, Sep-Oct 1893, Dr. Ebert s.n. ISOTYPE. Det. J. L. Reveal, n. d. Holotype NY.
- Equisetum hiemale* L. var. *intermedium* A. A. Eaton, Fern Bull. 10: 120-122. 1902. (5).
 MICHIGAN: [ST. CLAIR CO.]: Port Huron, 11 Jun 1896, C. K. Dodge Am. Fern Bull. Distr. No. 68, ISOTYPE.
- Equisetum hiemale* L. var. *pumilum* A. A. Eaton, Fern Bull. 11: 75, 109-110. 1903. (5).
 NEW HAMPSHIRE: [ROCKINGHAM CO.]: North Hampton, Aug 1896, A. A. Eaton Am. Fern Bull. Distr. No. 70, ISOTYPE.
- Equisetum hiemale* L. var. *suksdorfii* A. A. Eaton, Fern Bull. 11: 75, 110. 1903. (5).
 WASHINGTON: [KLICKITAT CO.]: Bingen, Sep 1902, W. N. Suksdorf Am. Fern Bull. Distr. No. 71, ISOTYPE.
- Equisetum intermedium* A. A. Eaton in Gilbert, List of N. Am. Pterid. 8, 26. 1901. (5).
 MASSACHUSETTS: [ESSEX CO.]: Amesbury, 30 May 1897, A. A. Eaton Am. Fern Bull. Distr. No. 47, ISOTYPE.
- Equisetum kansanum* Schaffner, Ohio Nat. 13: 21. 1912. (10).
 KANSAS: CLAY CO.: Bloom Township, 1 Jun 1888, J. H. Schaffner s.n. HOLOTYPE; 1 Jun 1889, ISOTYPE.
- Equisetum laevigatum* A. Br. f. *caespitosum* A. A. Eaton, Fern Bull. 11: 43. 1903. (5).
 NEBRASKA: [CUSTER CO.]: Callaway, Jul 1902, J. M. Bates Am. Fern Bull. Distr. No. 66, ISOTYPE.
- Equisetum laevigatum* A. Br. f. *ramosum* A. A. Eaton, Fern Bull. 11: 43. 1903. (5).
 NEBRASKA: [CUSTER CO.]: Callaway, Jul 1902, J. M. Bates Am. Fern Bull. Distr. No. 65, ISOTYPE.
- Equisetum litorale* Kuhnlewein var. *arvensiforme* A. A. Eaton in Gilbert, List of N. Am. Pterid. 8, 26. 1901. (5).
 MASSACHUSETTS: [ESSEX CO.]: Newburyport, 14 Aug 1898, A. A. Eaton Am. Fern Bull. Distr. No. 42, 2 Jun 1901, A. A. Eaton Am. Fern Bull. Distr. No. 41, ISOSYNTYPES.
- Equisetum litorale* Kuhnlewein f. *formosum* A. A. Eaton, Fern Bull. 10: 45. 1902. (5).
 MASSACHUSETTS: [ESSEX CO.]: Newburyport, 30 Jun 1897, A. A. Eaton Am. Fern Bull. Distr. No. 46, ISOSYNTYPE.
- Equisetum variegatum* Schleich. var. *jesupi* A. A. Eaton in Gilbert, List of N. Am. Pterid. 9, 27. 1901. (5).
 MICHIGAN: ST. CLAIR CO.: Port Huron, Jun 1896, C. K. Dodge Am. Fern Bull. Distr. No. 81, ISOSYNTYPE.
- Equisetum variegatum* Schleich. var. *nelsonii* A. A. Eaton, Fern Bull. 12: 41. 1904. (5).
 ILLINOIS: [COOK CO.]: East Chicago, Jun 1901, N. L. T. Nelson Am. Fern Bull. Distr. No. 85, ISOTYPE.
- Eupatorium phoenicolepis* Robinson var. *guatemalensis* Robinson, Proc. Am. Acad. Arts 43: 34. 1907. (6).
 GUATEMALA: DEP. SOLOLA: Volcan Atitlan, 16 Feb 1906, W. A. Kellerman 5199, ISOTYPE. Holotype F.
- Euphorbia pantomalaca* Standley & Steyermark, Fieldiana Bot. 23: 120. 1944. (6).
 GUATEMALA: DEP. BAJA VERAPAZ: El Rancho, Sierra de las Minas, 10 Mar 1905, W. A. Kellerman 5175, ISOTYPE. Holotype F.
- Euphrasia americana* Wettst. var. *canadensis* Robinson, Rhodora 3: 276. 1901. (3).
 MAINE: [AROOSTOOK CO.]: Frenchville, 12 Aug 1901, E. F. Williams, B. L. Robinson, & M. L. Fernald—*Plantae Exsiccatae Grayanae* 62, ISOSYNTYPE.
- Euphrasia williamsii* Robinson, Rhodora 3: 272. 1901. (3).
 NEW HAMPSHIRE: [COOS CO.]: "Alpine Garden," Mount Washington, 5 Aug 1901, E. F. Williams & B. L. Robinson—*Plantae Exsiccatae Grayanae* 60, ISOTYPE.
- Fagus grandifolia* Ehrh. f. *mollis* Fernald & Rehder in Rehder, Rhodora 9: 114. 1907. (2G).
 FLORIDA: LEON CO.: Tallahassee, 7-9 Aug 1895, G. V. Nash 2339, ISOTYPE. Also Isotype NY.
- Galactia fasciculata* Vail, Bull. Torrey Bot. Club 22: 505. 1895. (2G).
 FLORIDA: HILLSBOROUGH CO.: Tampa, 24 Aug 1895, G. V. Nash 2480, ISOTYPE. Holotype NY.

- Gayophytum intermedium* Rydberg, Bull. Torrey Bot. Club 31: 569-570. 1904. (15).
 COLORADO: [OURAY CO.]: Ouray, 9 Sep 1901, L. M. Underwood & A. D. Selby 193, ISOTYPE.
- Gerardia decemloba* Greene, Pittonia 4: 51, pl. IX. 1899. (2C, 7B).
 DISTRICT OF COLUMBIA: Reform School, Brookland, Washington, D.C., Oct-Nov 1898, T. Holm s.n., ISOTYPE. Lectotype NY, fide F. W. Pennell, Acad. Nat. Sci. Philadelphia Monogr. 1: 470. 1935. (Designation based on Kearney's annotation, "Dupl. Type!" [= Isotype], on the label).
- Gerardia divaricata* Chapman, Fl. S. United States. 299. 1860. (2A).
 FLORIDA: [FRANKLIN CO.]: Apalachicola, 18 Sep 1896, A. W. Chapman—Biltmore Herb. 483b, ISOTYPE. Lectotype US, fide F. W. Pennell, Acad. Nat. Sci. Philadelphia Monogr. 1: 466. 1935.
- Gerardia galvesiana* Greene, Pittonia 5: 138. 1903. (7A).
 TEXAS: [GALVESTON CO.]: Galveston Island, 24 Sep 1901, S. M. Tracy 7603, ISOTYPE.
- Gerardia holmiana* Greene, Pittonia 4: 52, pl. X. 1899. (2C, 7B).
 DISTRICT OF COLUMBIA: Soldiers Home, near Brookland, Sep-Oct 1898, T. Holm s.n., ISOTYPE. Lectotype NY, fide F. W. Pennell, Acad. Nat. Sci. Philadelphia Monogr. 1: 450. 1935. (Designation based on Kearney's annotation, "Dupl. type!" [= Isotype], on the label).
- Glottidium floridanum* DC. var. *atro-rubrum* Nash, Bull. Torrey Bot. Club 23: 101. 1896. (2G).
 FLORIDA: HILLSBOROUGH CO.: Tampa, 20 Aug 1895, G. V. Nash 2415, ISOTYPE.
- Gnaphalium brachyphyllum* Greenman, Publ. Field Mus. Nat. Hist., Bot. Ser. 2: 267. 1907. (6).
 GUATEMALA: DEP. SOLOLA: Cerro Quemado, 8 Feb 1906, W. A. Kellerman 5301, ISOTYPE. Holotype F.
- Gutierrezia juncea* Greene, Pittonia 4: 56. 1899. (7A).
 NEW MEXICO: LINCOLN CO.: Gray, Aug 1898, J. Skehan 78, ISOSYNTYPE.
- Helianthus brevifolius* E. Watson, Pap. Mich. Acad. Sci. 9: 448-449, pl. LXXIV. 1929. (1).
 OHIO: LAKE CO.: Richmond, 1894, O. Hacker s.n. HOLOTYPE.
- Helianthus illinoensis* Gleason, Ohio Nat. 5: 214. 1904. (1).
 ILLINOIS: [MASON CO.]: Havana, 17 Aug 1904, H. A. Gleason s.n. ISOTYPE Ex Herb. GH. Holotype MO.
- Helianthus kellermani* Britton, Manual 994. 1901. (1).
 OHIO: FRANKLIN CO.: Columbus, 5 Oct 1898, W. A. Kellerman s.n. TOPOTYPE.
- Helianthus laevigatus* Torrey & Gray subsp. *reindutus* Steele, Contrib. U. S. Natl. Herb. 13: 374. 1911. (1).
 VIRGINIA: BATH CO.: Millboro, 1 Sep 1906, E. S. Steele s.n. ISOTYPE.
- Helianthus occidentalis* Riddell, Suppl. Cat. Ohio Pl., West. J. Med. & Phys. Sci. 9: 577. 1836. Reprint p. 13. 1836. (9).
 OHIO: FRANKLIN CO.: Georgesville [according to Heiser, 1969], 29 Aug 1892, W. C. Werner s.n. NEOTYPE. Duplicates IND, NY. Designated by C. B. Heiser. Mem. Torrey Bot. Club 22(3): 104-106. 1969.
- Helianthus severus* E. Watson, Pap. Mich. Acad. Sci. 9: 428-429, pl. LXIV. 1929. (1).
 KANSAS: Between Garrison and Cleborne, 25 Sep 1925, E. E. Watson 744, ISOTYPE. Holotype MSC, fide C. B. Heiser, Mem. Torrey Bot. Club 22(3): 137. 1969.
- Helianthus verticillatus* Small, Bull. Torrey Bot. Club 25: 479. 1898. (2H).
 TENNESSEE: CHESTER CO.: Henderson, Aug 1892, L. M. Bain s.n. [no. 288 in the publication], ISOTYPE. (Designation based on Kearney's annotation, "Dupl. type!" [= Isotype], on the label).
- Heliopsis pulchra* Fisher, Ohio J. Sci. 61: 178. 1961. (1).
 MEXICO: CHIAPAS: Route 190, 5 mi n e Comitán, 25 Jun 1960, R. M. King 3049, ISOTYPE. Holotype TEX.
- Hemizonia arida* Keck, Aliso 4: 109. 1958. (1).
 CALIFORNIA: KERN CO.: Red Rock Canyon, Mojave Desert, 11 May 1935, D. D. Keck & P. Stockwell 3270, ISOTYPE. Holotype DS.
- Hemizonia parryi* Greene subsp. *australis* Keck, Madroño 3: 15. 1935. (1).
 CALIFORNIA: ORANGE CO.: Seal Beach, 29 Sep 1933, D. D. Keck 2537, ISOTYPE.
- Houstonia salina* Heller, Contrib. Herb. Franklin & Marshall College 1: 96. 1895. (2D).
 TEXAS: NEUCES CO.: Corpus Christi, 28-31 May 1894, A. A. Heller 1812, ISOTYPE.
- Hudsonia ericoides* L. var. *leucantha* Fernald, Rhodora 19: 76. 1917. (3).
 CANADA: PRINCE EDWARD ISLAND: Bothwell, 6 Jul 1914, M. L. Fernald & H. St. John—Plantae Exsiccatae Grayanae 241, ISOTYPE.
- Hydrangea cinerea* Small, Bull. Torrey Bot. Club 25: 148-149. 1898. (2H, E).
 TENNESSEE: White-Cliff Springs, 24 Jun 1890, F. L. Scribner s.n., 16 Jul 1894, T. H. Kearney, Jr. s.n. SYNTYPES. (Designation based on Kearney's annotation, "Dupl. co-type" [= Syntype], on the label).
- Hypericum lobocarpum* Gattinger ex J. M. Coulter, Bot. Gaz. 11: 275-276. 1886. (2B).
 TENNESSEE: CARROLL CO.: Hollow Rock, yr. 1867 in fruit, 1886 in flower, A. Gattinger s.n., SYNTYPE.

- Iresine acicularis* Standley, Contrib. U. S. Natl. Herb. 18: 93. 1916. (6).
 GUATEMALA: DEP. SACATEPEQUEZ: Volcan Fuego (Antigua), 20 Feb 1905, W. A. Kellerman 4549, ISOTYPE. Holotype US.
- Isoetes dodgei* A. A. Eaton, Fern Bull. 6: 5-7. 1898. (11).
 NEW HAMPSHIRE: [ROCKINGHAM CO.]: Kingston, Sep 1897, A. A. Eaton 942, ISOTYPE.
- Iva oraria* Bartlett, Rhodora 8: 26. 1906. (3).
 MASSACHUSETTS: [MIDDLESEX CO.]: Banks of the Charles River, Boston, 18 Sep 1905, H. H. Bartlett [354]—*Plantae Exsiccatae Grayanae* 293, ISOTYPE.
- Kuhnistera gattingeri* Heller, Bull. Torrey Bot. Club 23: 121. 1896. (2D, B).
 TENNESSEE: [RUTHERFORD or DAVISSON CO.]: Lavergne, Jul 1894, A. Ruth 17; DAVIDSON CO.: Without locality, yr. 18—, A. Gattinger s.n. SYNTYPES.
- Kuhnistera pulcherrima* Heller, Contrib. Herb. Franklin & Marshall College 1: 50-51. 1895. (2D).
 TEXAS: KERR CO.: Kerrville, 12-19 Jun 1894, A. A. Heller 1857, ISOTYPE.
- Lacinaria chapmanii* (Torrey & Gray) Kuntze var. *longifolia* Nash, Bull. Torrey Bot. Club 23: 106-107. 1896. (2G).
 FLORIDA: HILLSBOROUGH CO.: Tampa, 24 Aug 1895, G. V. Nash 2473, ISOTYPE.
- Lacinaria nashii* Small, Fl. S. United States. 1175, 1338. 1903. (2H, G).
 FLORIDA: MANATEE CO.: Palmetto, 21-23 Aug 1895, G. V. Nash 2430, ISOTYPE. Holotype NY.
- Lactuca spicata* (Lam.) Hitchc. var. *aurea* O. E. Jennings, Ann. Carnegie Mus. 13: 440-443+pl. XXXIII. 1922. (1).
 PENNSYLVANIA: ALLEGHENY CO.: Pittsburgh, 2 Oct 1905, O. E. Jennings & Grace E. Kinzer s.n. ISOTYPE.
- Lagophylla dichotoma* Benth. subsp. *minor* Keck, Madroño 3: 16. 1935. (1).
 CALIFORNIA: NAPA CO.: Pope Creek, s. Walters Spring, 29 May 1933, D. D. Keck 2338, ISOTYPE. Holotype DS.
- Layia pentachaeta* A. Gray subsp. *albida* Keck, Aliso 4: 107. 1958. (1).
 CALIFORNIA: SAN LUIS OBISPO CO.: 5 mi e Cholame, summit of Polonio Pass, 9 Apr 1935, D. D. Keck & J. Clausen 3106, ISOTYPE. Holotype DS.
- Layia septentrionalis* Keck, Aliso 4: 106. 1958. (1).
 CALIFORNIA: LAKE CO.: 2.5 mi s Lakeport, 29 May 1933, D. D. Keck 2384, ISOTYPE. Holotype DS.
- Lesquerella foliacea* Greene, Pittonia 5: 134. 1903. (7A).
 TEXAS: HOWARD CO.: Big Springs, 12 May 1902, S. M. Tracy 8044, ISOTYPE. Det. as *L. fendleri* (A. Gray) S. Watson by R. C. Rollins & E. A. Shaw, Jun 1970.
- Lobelia inflata* L. f. *albiflora* Moldenke, Castanea 9: 65. 1944. (13).
 OHIO: COSHOCTON CO.: North Appalachian Experimental Watershed, near Coshoc-ton, 25 Oct 1942, H. N. Moldenke 14263, HOLOTYPE.
- Lycopodium flabelliforme* (Fern.) Blanch. f. *clutei* Moldenke, Castanea 9: 32-33. 1944. (13).
 OHIO: COSHOCTON CO.: North Appalachian Experimental Watershed, near Coshoc-ton, 19 Sep 1942, H. N. Moldenke 14070a, HOLOTYPE.
- Megalodonta nudata* Greene, Pittonia 4: 271-272. 1901. (2C, 7B).
 NEW YORK: [SARATOGA CO.]: Lake Saratoga, Aug 1894, T. F. Allen s.n. ISOTYPE. Also Isotype NY.
- Melampodium strigosum* Stuessy, Rhodora 74: 51-54. 1972. (1).
 MEXICO: CHIHUAHUA: On route 16, ca. 5 mi e Ciudad Guerrero, 21 Aug 1967, T. F. Stuessy 1054, ISOTYPE. Holotype US; also Isotypes F, GH, MICH, NY, SMU, TEX, UC.
- Melothria nashii* Small, Bull. Torrey Bot. Club 25: 483. 1898. (2H, G).
 FLORIDA: HILLSBOROUGH CO.: Tampa, 24 Aug 1895, G. V. Nash 2469, ISOTYPE. Holotype NY. (Designation based on Kearney's annotation, "Dupl Type!" [= Isotype], on the label).
- Mimulus inamoenus* Greene, Pittonia 5: 137. 1903. (7A).
 TEXAS: [JEFF DAVIS CO.]: Limpia Cañon, 25 Apr 1902, S. M. Tracy & F. S. Earle 220, ISOTYPE.
- Monarda punctata* L. var. *leucantha* Nash, Bull. Torrey Bot. Club 23: 104-105. 1896. (2G).
 FLORIDA: MANATEE CO.: Sneed's Island, near mouth of Manatee River, Palmetto, 21-23 Aug 1895, G. V. Nash 2456, ISOSYNTYPE. Syntype NY.
- Morus alba* L. f. *nigrobacca* Moldenke, Castanea 9: 51. 1944. (13).
 OHIO: COSHOCTON CO.: North Appalachian Experimental Watershed, near Coshoc-ton, 13 Aug 1942, H. N. Moldenke 13609, HOLOTYPE.
- Oxalis hirsuticaulis* Small, Bull. Torrey Bot. Club 25: 611. 1898. (2H, B).
 TENNESSEE: [DAVIDSON CO.]: Nashville, n. d., A. Gattinger s.n. SYNTYPE. (Designation based on Kearney's annotation, "Dupl. type!" [= Isotype], on the label).
- Panicum capillare* L. var. *geniculatum* Scribner in Kearney, Bull. Torrey Bot. Club 20: 477. 1893. (2E).
 KENTUCKY: BELL CO.: Cumberland River, Sep 1893, T. H. Kearney, Jr. 335, SYNTYPE.

- Panicum implicatum* Scribner ex Britton in Britton & Brown, Illustr. Fl. 3: 498. f. 267a. 1898. (2I).
 MAINE: [KENNEBEC CO.]: Manchester, Jul 1896, F. L. Scribner s.n. ISOTYPE. (Designation based on Kearney's annotation, "Dupl. Type!" [=Isotype], on the label).
- Panicum pubifolium* Nash, Bull. Torrey Bot. Club 26: 577-579. 1899. (2G, E).
 TENNESSEE: KNOX CO.: Knoxville, 9 Jul 1893, T. H. Kearney, Jr. s.n. SYNTYPE. Also Syntype NY. (Designation based on Kearney's annotation, "Dupl. Co-type!" [=Syntype], on the label).
- Panicum sphagnicolum* Nash, Bull. Torrey Bot. Club 22: 422. 1895. (2G).
 FLORIDA: COLUMBIA CO.: Lake City, 29-31 Aug 1895, G. V. Nash 2500, ISOTYPE. Holotype NY. (Designation based on Kearney's annotation, "Dupl. Type!" [=Isotype], on the label).
- Panicum xanthophysum* A. Gray, North American Gramineae and Cyperaceae, Part I. No. 28. 1834. (16).
 NEW YORK: Pine Plains, near Oneida Lake, n. d., A. Gray s.n. ISOTYPE.
- Pectis lessingii* Fernald, Proc. Am. Acad. Arts 33: 67. 1897. (1).
 FLORIDA: [DADE CO.]: Miami, Jul 1877, A. P. Garber s.n. ISOSYNTYPE. Det. as *P. leptoccephala* (Cassini) Urban by D. J. Keil, 1972.
- Pectis linearifolia* Urban, Symb. Ant. 5: 276. 1907. (2G).
 FLORIDA: HILLSBOROUGH CO.: Tampa, 24 Aug 1895, G. V. Nash 2479, ISOSYNTYPE. Syntype NY.
- Penstemon coloradensis* A. Nelson, Bull. Torrey Bot. Club 26: 355. 1899. (1).
 COLORADO: [MONTEZUMA CO.]: Mancos, La Platas Mountains, 23 Jun 1898, C. F. Baker, F. S. Earle, & S. M. Tracy 70, ISOTYPE.
- Penstemon guadalupensis* Heller, Contrib. Herb. Franklin & Marshall College 1: 92. 1895. (2D).
 TEXAS: KERR CO.: Kerrville, 19-25 Apr 1894, A. A. Heller 1609, ISOTYPE. Det. F. W. Pennell, 1924. Also Isotypes GH, K, MO, ND, NY, PH, RM, US, *fide* F. W. Pennell, Acad. Nat. Sci. Philadelphia Monogr. 1: 252. 1935.
- Penstemon helleri* Small, Bull. Torrey Bot. Club 25: 471-472. 1898. (2H, D).
 TEXAS: KERR CO.: Kerrville, 19-25 Apr 1894, A. A. Heller 1610, ISOTYPE. Det. as *P. triflorus* Heller by F. W. Pennell, 1924. Lectotype NY; also Isotypes GH, K, MIN, MO, PH, RM, US, *fide* F. W. Pennell, Acad. Nat. Sci. Philadelphia Monogr. 1: 251. 1935. (Designation based on Kearney's annotation, "Dupl. type!" [=Isotype], on the label).
- Penstemon strictiformis* Rydberg, Bull. Torrey Bot. Club 31: 642. 1905. (1).
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- Penstemon triflorus* Heller, Contrib. Herb. Franklin & Marshall College 1: 92-93. 1895. (2D).
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- Phoradendron vulcanicum* Trelease, Monogr. Phoradendron, 77, pl. 99. 1916. (6).
 GUATEMALA: DEP. SACATEPEQUEZ: Volcan Acatenango, 20 Feb 1905, W. A. Kellerman 4829, ISOTYPE. Holotype US.
- Physalis arenicola* Kearney, Bull. Torrey Bot. Club 21: 485. 1894. (2E, G).
 FLORIDA: [LAKE CO.]: Eustis, yr. 1894, G. V. Nash 1170, HOLOTYPE. Isotypes NY. (Designation based on Kearney's annotation, "Type" [=Holotype], on the label).
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 SOUTH DAKOTA: Spring Creek, 20 Aug 1891, T. A. Williams s.n. ISOTYPE.
- Plantago rugelii* Dcne. f. *fasciculata* Moldenke, Castanea 9: 65. 1944. (13).
 OHIO: COSHOCTON CO.: North Appalachian Experimental Watershed, near Coshocton, 8 Jul 1942, H. N. Moldenke 13107, HOLOTYPE.
- Pluchea foetida* (L.) DC. var. *imbricata* Kearney, Bull. Torrey Bot. Club 21: 483-484. 1894. (2E, G).
 FLORIDA: [LAKE CO.]: Eustis, yr. 1894, G. V. Nash 1434, HOLOTYPE. Isotype NY. (Designation based on Kearney's annotation, "Type" [=Holotype], on the label).
- Polygonum ramosissimum* Michx. f. *atlanticum* Robinson, Rhodora 4: 72. 1902. (3).
 MASSACHUSETTS: [DUKES CO.]: Edgartown, 10 Sep 1901, M. L. Fernald—*Plantae Exsiccae* Grayanae 68, ISOTYPE.

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WASHINGTON: [PIERCE CO.]: Nisqually River near Longmire Springs, Mt. Rainer National Park, 18 Aug 1915, O. E. & Grace K. Jennings 9960, ISOTYPE. Holotype CM.
- Prunus alabamensis* Mohr, Bull. Torrey Bot. Club 26: 118-119. 1899. (2F).
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- Prunus injuncunda* Small, Bull. Torrey Bot. Club 25: 149-150. 1898. (2H).
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- Pseudosmodingium anomalum* I. M. Johnston, J. Arnold Arb. 24: 235-236. 1943. (12).
MEXICO: COAHUILA: 11 kilo. n e Jimulco, 28 Jun 1941, L. R. Stanford, K. L. Retherford, & R. D. Northcraft 73, ISOTYPE.
- Quararibea dolichopoda* Robyns, Annals Missouri Bot. Gard. 54: 185-186. 1967. (17).
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- Rhynchosia michauxii* Vail, Bull. Torrey Bot. Club 22: 458-459. 1895. (2G).
FLORIDA: ORANGE CO.: Sanford, 1 Aug 1895, G. V. Nash 2314, ISOSYNTYPE.
- Rorippa curvisiliqua* (Hook.) Bessey ex Britton var. *orientalis* Stuckey, Sida 4: 315. 1972. (1).
CALIFORNIA: ELDORADO CO.: Meeks Bay at Lake Tahoe, 28 Jul 1963, R. L. Stuckey 1939, ISOTYPE. Holotype MICH.
- Rorippa palustris* (L.) Besser subsp. *hispida* (Desv.) Jonsell var. *elongata* Stuckey, Sida 4: 367. 1972. (1).
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- Rosa underwoodii* Rydberg, Bull. Torrey Bot. Club 31: 560-561. 1904. (15).
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- Rudbeckia sullivantii* Boynton & Beadle, Biltmore Bot. Stud. 1(1): 15-16. 1901. (14).
OHIO: [FRANKLIN CO.]: Columbus, 1840, W. S. Sullivant s.n. ISOTYPE. Holotype GH; Isotype NY.
- Rumex ellipticus* Greene, Pittonia 4: 234. 1901. (7A).
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- Ruprechtia kellermanii* J. D. Smith, Bot. Gaz. 47: 260. 1909. (6).
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- Samolus alyssoides* Heller, Contrib. Herb. Franklin & Marshall College 1: 74-75. 1895. (2D).
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TEXAS: KERR CO.: Kerrville, 14-21 May 1894, A. A. Heller 1751, ISOTYPE. (Designation based on Kearney's annotation, "Dupl. Type" [= Isotype], on the label).
- Saxifraga sullivantii* Torrey & Gray, Fl. N. Am. 1: 575-576. 1840. (14).
OHIO: [HIGHLAND CO.]: Rocky Fork of Paint Creek], yr. 1840, W. S. Sullivant s.n. TOPOTYPE.
- Schistocarphu platyphylla* Greenman, Publ. Field Mus. Nat. Hist., Bot. Ser. 2: 274-275. 1907. (6).
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- Scirpus debilis* Pursh var. *williamsii* Fernald, Rhodora 3: 252. 1901. (3).
MASSACHUSETTS: NORFOLK CO.: Massapoag Lake, Sharon, 7 Sep 1901, E. F. Williams & M. L. Fernald—*Plantae Exsiccatæ Grayanae* 26, ISOTYPE.
- Scutellaria venosa* Kearney, Bull. Torrey Bot. Club 24: 571-572. 1897. (2E).
TENNESSEE: [COCKE CO.]: Summit Bluff Mountain near Lemon's Gap, 28 Aug 1897, T. H. Kearney, Jr. 873, HOLOTYPE. Isotype US.
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 COLORADO: [CHAFFEE CO.]: Mt. Princeton Station, 13 Sep 1901, L. M. Underwood & A. D. Selby 465, ISOSYNTYPE.
- Sida rubro-marginata* Nash, Bull. Torrey Bot. Club 23: 102-103. 1896. (2G).
 FLORIDA: HILLSBOROUGH CO.: Tampa, 24 Aug 1895, G. V. Nash 2472, ISOTYPE. Holotype NY.
- Smilax renifolia* Small, Bull. Torrey Bot. Club 25: 608-609. 1898. (2D).
 TEXAS: KERR CO.: Bear Creek, 30 Apr 1894, A. A. Heller 1679, ISOTYPE. Holotype NY. (Designation based on Kearney's annotation, "Dupl type" [= Isotype], on the label).
- Solidago humilis* Miller var. *reducta* Farwell, Am. Midl. Nat. 11: 84-85. 1928. (1).
 MICHIGAN: [WAYNE CO.]: Detroit, 30 Aug 1905, O. A. Farwell 1947a, ISOSYNTYPE; [MONROE CO.]: Monroe, 17 Aug 1927, O. A. Farwell 8095, ISOSYNTYPE. Lectotype no. 8122 MICH, fide R. McVaugh, S. A. Cain, and D. J. Hagenah, Cranbrook Inst. Sci. Bull. 34, p. 70. 1953.
- Solidago lueta* Greene, Pittonia 5: 138-139. 1903. (7A).
 TEXAS: [PARKER CO.]: Weatherford, 20 Oct 1902, S. M. Tracy 8137, ISOTYPE.
- Solidago moseleyi* Fernald, Rhodora 10: 93. 1908. (1).
 OHIO: ERIE CO.: Oxford Prairie, 26 Sep 1908, E. L. Moseley s.n. TOPOTYPE. Holotype GH.
- Solidago pallescens* Mohr, Bull. Torrey Bot. Club 26: 120. 1899. (2F).
 ALABAMA: LEE CO.: Auburn, 4 Oct 1897, F. S. Earle & C. F. Baker s.n., ISOTYPE.
- Solidago venulosa* Greene, Pittonia 5: 138. 1903. (7A).
 TEXAS: [PARKER CO.]: Weatherford, 18 Oct 1902, S. M. Tracy 8130, ISOTYPE.
- Sophia purpurascens* Rydberg, Bull. Torrey Bot. Club 31: 556. 1904. (15).
 COLORADO: [OURAY CO.]: Bear Creek, s Ouray, 10 Sep 1901, L. M. Underwood & A. D. Selby 275, ISOTYPE.
- Sophia ramosa* Rydberg, Bull. Torrey Bot. Club 31: 556. 1904. (15).
 COLORADO: [GUNNISON CO.]: Pitkin, 13 Sep 1901, L. M. Underwood & A. D. Selby 413, ISOTYPE.
- Spiraea northcraftii* I. M. Johnston, J. Arnold Arb. 24: 234. 1943. (12).
 MEXICO: COAHUILA: 13 kilo. e Jimulco, summit Mt. Jimulco, 29 Jun 1941, L. R. Stanford, K. L. Retherford, & R. D. Northcraft 115, ISOTYPE.
- Steironema intermedium* Kearney, Bull. Torrey Bot. Club 21: 264. 1894. (2E, F).
 TENNESSEE: KNOX CO.: Without locality, Jul 1891, T. H. Kearney, Jr. s.n.; ALABAMA: TALLADEGA CO.: Alpine Mountain, Jul 1893, C. Mohr s.n.; KENTUCKY: HARLAN CO.: Pine Mountain, Aug 1893, T. H. Kearney, Jr. 121; TENNESSEE: KNOX CO.: Without locality, 9 Jul 1894, T. H. Kearney, Jr. s.n., SYNTYPES.
- Steironema tonsum* (Wood) Bicknell var. *simplex* Kearney, Bull. Torrey Bot. Club 24: 571. 1897. (2E).
 TENNESSEE: COCKE CO.: Wolf Creek Station, 6 Sep 1897, T. H. Kearney, Jr. 831, HOLOTYPE. Isotype NY.
- Stylosanthes riparia* Kearney, Bull. Torrey Bot. Club 24: 565-568. 1897. (2E).
 TENNESSEE: COCKE CO.: French Broad River near Wolf Creek, 2 Aug 1894, T. H. Kearney, Jr. s.n.; French Broad River between Paint Rock and Del Rio, 1 Sep 1897, T. H. Kearney, Jr. 674, SYNTYPES.
- Teucrium nashii* Kearney, Bull. Torrey Bot. Club 21: 484. 1894. (2E, G).
 FLORIDA: [LAKE CO.]: Eustis, yr. 1894, G. V. Nash 1516, HOLOTYPE. (Designation based on Kearney's annotation, "Type" [= Holotype], on the label).
- Thamnosma stanfordii* I. M. Johnston, J. Arnold Arb. 24: 235. 1943. (12).
 MEXICO: COAHUILA: 11 kilo. n e Jimulco, 27 Jun 1941, L. R. Stanford, K. L. Retherford, & R. D. Northcraft 16, ISOTYPE.
- Tovara virginiana* (L.) Raf. f. *rubra* Moldenke, Boissiera 7: 4. 1943. (13).
 OHIO: COSHOCTON CO.: North Appalachian Experimental Watershed, near Coshocton, 15 Aug 1942, H. N. Moldenke 13665, HOLOTYPE.
- Tracaulon sagittatum* (L.) Small f. *subalbidum* Moldenke, Castanea 9: 41. 1944. (13).
 OHIO: COSHOCTON CO.: North Appalachian Experimental Watershed, near Coshocton, 13 Aug 1942, H. N. Moldenke 13627, HOLOTYPE.
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- Trifolium pratense* L. f. *lilacinum* Moldenke, Boissiera 7: 4. 1943. (13).
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OHIO: FRANKLIN CO.: Columbus, 20 Oct 1934, R. B. Gordon & J. H. Schaffner s.n. ISOTYPE. Holotype NY.
- Valeriana trachycarpa* Rydberg, Bull. Torrey Bot. Club 31: 645. 1904. (15).
COLORADO: [OURAY or SAN JUAN CO.]: Red Mountain, 11 Sep 1901, L. M. Underwood & A. D. Selby 352, ISOTYPE.
- Vauquelinia retherfordii* I. M. Johnston, J. Arnold Arb. 24: 234-235. 1943. (12).
MEXICO: COAHUILA: 11 kilo. n e Jimulco, 28 Jun 1941, L. R. Stanford, K. L. Retherford, & R. D. Northcraft 87, ISOTYPE.
- Verbena demareei* Moldenke, Am. Midl. Nat. 24: 752. 1940. (1).
ARKANSAS: CLARK CO.: Okolona, 30 Jun 1938, D. Demaree 17198, ISOTYPE. Holotype NY.
- Verbena inconspicua* Greene, Pittonia 5: 137. 1903. (7A).
TEXAS: Plains w Rio Pecos, 20 Apr 1902, S. M. Tracy & F. S. Earle 106; [JEFF DAVIS CO.]: Davis Mountains, 23 Apr 1902, S. M. Tracy & F. S. Earle 178, ISOSYNTYPES.
- Verbena leucanthemifolia* Greene, Pittonia 5: 135. 1903. (7A).
TEXAS: [TAYLOR CO.]: Abilene, 19 May 1902, S. M. Tracy 7996, ISOTYPE.
- Verbena plicata* Greene, Pittonia 5: 135. 1903. (7A).
TEXAS: [WARD CO.]: Barstow, 14 Apr 1902 [on the label and 16 Apr as cited in the literature], S. M. Tracy & F. S. Earle 30, ISOSYNTYPE. (Although the dates do not agree, the designation, "Type Collection," is part of the printed label).
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TEXAS: [JEFF DAVIS CO.]: Davis Mountains, 23 Apr 1902, S. M. Tracy & F. S. Earle 162, ISOSYNTYPE.
- Verbena pulchella* Greene, Pittonia 5: 136. 1903. (7A).
TEXAS: [JEFF DAVIS CO.]: Davis Mountains, 21 Apr 1902 [on the label and 23 Apr as cited in the literature], S. M. Tracy & F. S. Earle 106a, ISOTYPE. (Although the dates do not agree, the designation, "Type Collection," is part of the printed label).
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TEXAS: NEUCES CO.: Corpus Christi, 5 Mar 1894, A. A. Heller 1388, ISOTYPE.
- Vernonia altissima* Nutt. f. *alba* Moldenke, Boissiera 7: 5. 1943. (13).
OHIO: COSHOCTON CO.: North Appalachian Experimental Watershed, near Coshocton, 2 Aug 1942, H. N. Moldenke 13514, HOLOTYPE.
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KENTUCKY: HARLAN CO.: Poor Fork Post Office, Aug 1893, T. H. Kearney, Jr. 188; TENNESSEE: [KNOX CO.]: Knoxville, Sep 1894, A. Ruth s.n., SYNTYPES. Det. as *V. gigantea* (Walt.) Trel. subsp. *gigantea* by L. E. Urbatsch, 1970. (Designation based on Kearney's annotation, "Dupl. Co-Type!" [=SYNTYPES], on the labels of both sheets).
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TENNESSEE: COCKE CO.: Near Wolf Creek Station, French Broad River between Paint Rock and Del Rio, 16 Sep 1897, T. H. Kearney, Jr. 785, HOLOTYPE. Isotypes NY, US.
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PANAMA: DARIEN: 1-4 mi n Pucro, 22 Jun 1967, J. A. Duke 13029, ISOTYPE. Holotype MO; also Isotype GH.

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Great Lakes Basin, Parts I and II. (*Helen Hauck*). April/June (No. 2) and July/September (No. 3) issues of Vol. 41 of *Business and Technology Sources*, Bulletin of the Business Information and Science and Technology Departments of the Cleveland Public Library, Cleveland, Ohio 44114. 1970. 8 p. each number. \$.25 each number.

These two small issues contain a two-part bibliography of information on the Great Lakes. The bibliography is not annotated, but does attempt to cover a very wide range of topics relating to the Great Lakes. The material is set in type on good-quality paper.

Part I covers engineering aspects (beaches and harbors, soils, geology, sedimentation, and water levels), industrial and economic uses (fisheries, mineral and petroleum resources, recreation areas, transport and shipping), laws, meteorology (weather, evaporation, ice, storms, temperature, and seiches), and some subject bibliographies. Part II covers pollution (including its control and relation to wildlife), research, and water (analysis, pollution, resources, and as underground water in areas adjacent to the lakes).

Despite the lack of annotation, these 16 pages present a striking survey of papers dealing with the Great Lakes, and especially with Lake Erie, from a variety of sources. References are taken from federal and several states' publications, from scientific journals (including *The Ohio Journal of Science*), from reports from technological organizations, and from independent research sources. Because of the wide coverage of Great Lakes subjects considered, this two-part bibliography should be very useful to anyone concerned with the Great Lakes, especially with Lake Erie, particularly at this modest price.

JANE L. FORSYTH